

MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

VOL. LX.

APRIL 11, 1900.

No. 7

E. B. KNOBEL, Esq., PRESIDENT, in the Chair.

Thomas C. Bush, Somerville, Wells Road, Bath, was balloted for and duly elected a Fellow of the Society.

The following candidates were proposed for election as Fellows of the Society, the names of the proposers from personal knowledge being appended :—

Louis Napoleon George Filon, M.A., Fellow of and Lecturer on Astronomy at University College, London, Godwin House, St. Augustine's Avenue, South Croydon (proposed by H. F. Newall) ;

Forest Ray Moulton, Ph.D., Instructor in Astronomy at the University of Chicago (proposed by George E. Hale) ;

William Harrison Pearsall, Higher Grade School, Dalton-in-Furness (proposed by H. A. Wassell).

Seventy-eight presents were announced as having been received since the last meeting, including, amongst others :—

Royal Observatory, Cape of Good Hope, Reference Catalogue of Southern Double Stars, and Catalogue of 2789 Zodiacal Stars ; Royal Observatory, Greenwich, Observations, 1897 ; Harvard Observatory Annals, Vols. 32, 33 (Visual Observations of the Moon and Planets, W. H. Pickering ; Miscellaneous researches) ; Lund Observatory, Observations des étoiles de la

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zone entre 35° et 40° N.; Paris Observatory, Carte photographique du ciel, Zone 24 (24 Charts), presented by the Observatories; S. de Glasenapp, Mesures micrométriques d'étoiles doubles; H. L. Rice, Theory and Practice of Interpolation; G. V. Schiaparelli, Osservazioni del pianeta Marte, 1888, presented by the authors; Photographischer Mond-Atlas, Heft 7, 8, presented by Prof. Weinek; Photograph of a meteor (lantern slide and enlargement), presented by C. P. Butler; Bronze copy of the Jubilee Medal of the Royal Meteorological Society, presented by the Society.

On Stationary Radiants of Meteors. Reply to the Criticisms of M. Th. Brédikhine. By H. H. Turner, M.A., F.R.S., Savilian Professor.

In *Monthly Notices, R.A.S.*, vol. lix. p. 140 (1899 January), I suggested an explanation of the stationary or long-enduring radiant points which Mr. W. F. Denning has so long and faithfully declared to be the outcome of his observations. In the *Bulletin de l'Acad. Imp. des Sciences de St. Pétersbourg* for January last (T. xii. No. 1), M. Th. Brédikhine has done me the honour to examine my suggestion at some length, though he ultimately dismisses it as leading to a totally different result from that which it endeavours to explain. He declares that I have forgotten to take account of the fact that the Earth's path is curved, and that my explanation would only hold good if the Earth moved in a straight line. I hope, however, to show that the mistake is his own, and that my suggested explanation remains untouched.

My suggestion was briefly this. Suppose we have originally a swarm of meteors crossing the Earth's orbit at a point N_0 . The action of the Earth in passing again and again through the swarm will cause some of the meteors to describe new orbits crossing the Earth's orbit at a point N_1 displaced from N_0 in the direction opposite to that of the Earth's motion, but without altering the average *relative* motion of the Earth and meteors. Some of these, again, will be caused to describe new paths crossing the Earth's orbit at N_2 , and so on, so that ultimately, instead of the point N_0 , we have a long series of points $N_0 N_1 N_2$.

In the ordinary language of meteoric theory the point N is called the node, and it is a quite familiar idea that the node should be made to regrede in this way by the perturbations of the Earth. I merely avoid using this familiar language because there are two unfamiliar ideas on which I wish to insist which are liable to be overlooked if we think of the motion of the node as it would occur for a planet. These points are:

First, that the crossing-point of the swarm does not move as a whole; for some members of the swarm it remains unaffected, for